Remarks

This paper is filed in response to the office action of October 29, 2008. After amendment, claims 55-69 and 71-91 remain pending in the present application. Claims 1-54 and 70 were previously canceled. Claims 90 and 91 were previously presented as new claims. Claims 56, 72, 88, 89 and 91 are amended in this response. Note that the claims have been amended to address the Examiner's recitation of newly cited art. Note that any subject matter deleted from the claims which is not anticipated by the art of record is cancelled *without prejudice* herein in order to advance prosecution in this application, seek expedited allowance and give Applicants a chance to file a subsequent application (divisional) directed to such subject matter, if advisable. Support for the amendment to the claims can be found throughout the originally filed application and claims.

The Examiner has rejected the previously filed claims under 35 U.S.C. §102 and §103 based upon the disclosure of Kazuhiro, et al., JP5230058 (JP5230058) and under §103 based upon the disclosure of Haraguchi, et al., *J. Org. Chem,* 1996, 61, pp. 851-858 (Haraguchi). No other rejection is made in the office action of October 29, 2008 and the previously made rejections/objections have all been withdrawn. Applicants shall address the remaining rejections hereinbelow.

The §102(b) Rejection

The Examiner has rejected previously pending claims 55 and 56 as being anticipated under 35 U.S.C. §102(b) by JP5230058. JP5230058 discloses a series of uridine nucleosides having a double bond in the sugar moiety between the 2' and 3' position or between the 3' and 4' position of the sugar. An English abstract of the disclosure of JP5230058 is enclosed for the Examiner's review. As depicted in the enclosed English abstract, the only relevant chemical structure is structure 1, which contains a uracil base moiety and several substituents at the 4' position of the sugar moiety, including allyl and 2-alkyl allyl groups. Applicants have amended the pending claims such that R^3 no longer claims such moieties or obvious variants of those moieties at the 4' position of a uracil nucleoside.

Inasmuch as Applicants have amended the pending claims so that they do not claim the compounds which are disclosed by JP5230058, it is respectfully submitted that the rejection by

the Examiner has now been rendered moot in the present application.

The §103 Rejections

The Rejection Over JP5230058

The Examiner has rejected claims 71-72 and 89 under 35 U.S.C. §103 as being unpatentable over JP5230058 based upon the view that the compounds which are disclosed therein may be used in compositions which are claimed in the present invention. Applicants note that the Examiner recognizes that JP5230058 does not disclose pharmaceutical compositions *per se*. Applicants have amended the claims such that JP5230058 no longer anticipates the presently pending claims and Applicants further have amended claims 89 and 72 in such manner that those claims do not relate to compositions which comprise any compounds which are otherwise disclosed by JP5230058. Consequently, it is respectfully submitted that Applicants' amendment to the claims have rendered moot the Examiner's rejection of the previously pending claims under 35 U.S.C. §103.

The Rejection Over Haraguchi

The Examiner has rejected previously pending claim 91 under 35 U.S.C. §103 as being unpatentable over Haraguchi for the reasons which are set forth in the office action on page 4-5 of the October 29, 2008 office action. Note that claim 91 has been amended such that n is now limited to 3, 4 or 5. Haraguchi discloses compounds having a cytosine nucleoside base wherein the 4' position of the sugar moiety is substituted with an allyl group (n corresponds to 1). Amended claim 91 is directed to pharmaceutical compositions comprising cytidine nucleoside compounds wherein n of the alkylene vinyl R^3 substituent is 3, 4 or 5. The compounds which are included in the pharmaceutical compositions according to presently pending claim 91 are therefore clearly structurally distinguishable over the teachings of Haraguchi.

Moreover, Haraguchi does not teach the biological activity of any of the compounds which are disclosed therein. Rather, Haraguchi is directed to the chemical synthesis of 4'-allylic substituted nucleoside analogs in order to maintain stereoselective access and introduction of an allylic group at the 4'-position of a number of nucleoside compounds. Haraguchi does indicate that the rationale for establishing the stereoselective synthetic approaches disclosed therein is

ultimately to test and evaluate compounds which are produced, but no biological activity is presented. Indeed, Haraguchi, at page 855, first column, second paragraph of the section labeled "**Conclusion**", indicates that the biological activity of the compounds disclosed therein had not been assessed. No structure activity relationship is established for the compounds disclosed in Haraguchi.

It is respectfully submitted that presently pending claim 91 is non-obvious over the teachings of Haraguchi inasmuch as Haraguchi does not disclose or suggest any of the compounds which are included in pharmaceutical compositions according to the present invention, and for those which are disclosed, there is no indication of the biological activity of those compounds. Thus, there is and can be no motivation to produce te pharmaceutical compositions according to the present invention, given that the compounds included in the compositions of the present invention are not disclosed or suggested by Haraguchi and there is absolutely no biological activity disclosed for the numerous purine and pyrimidine nucleoside compounds. Thus, there is simply insufficient information set forth in Haraguchi from which to glean a rationale or motivation for providing the instantly claimed compositions of pending claim 91.

It is respectfully submitted that the pharmaceutical compositions which are set forth in amended claim 91 are non-obvious over the teachings of Haraguchi. It is respectfully submitted that the presently pending claims are now in compliance with the requirements of 35 U.S.C. and Applicants respectfully request the Examiner to withdraw his rejections cited in the present office action.

For the above reasons, Applicants respectfully assert that the claims set forth in the amendment to the application of the present invention are now in compliance with 35 U.S.C. Applicants respectfully submit that the present application is now in condition for allowance and such action is earnestly solicited. Applicants have neither added nor cancelled any claim. No fee is due therefore for the presentation of this amendment. If any fee is determined to be due or any overpayment has been made previously, the Commissioner is cordially requested to charge or credit Deposit Account No. 04-0838.

Should the Examiner feel the need to discuss the instant application in order to expedite allowance, the Examiner is cordially requested to telephone the undersigned attorney at the indicated telephone number.

Dated: 1-29-09

Respectfully submitted,
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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being sent by first class mail in an envelope addressed to the Comissioner for Patents, United States Patent and Trademark Office, Alexandria, Virginia, 22313-1450, on January 29, 2009.

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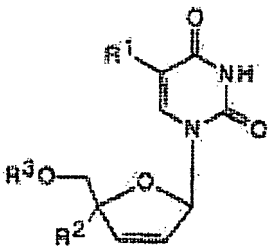
Henry D. Coleman

4'-CARBON SUBSTITUTED PYRIMIDINE NUCLEOSIDE AND ITS PRODUCTION

Publication number: JP5230058 (A)
Publication date: 1993-09-07
Inventor(s): HARAGUCHI KAZUHIRO; TANAKA HIROMICHI; MIYASAKA SADA
Applicant(s): YAMASA SHOYU KK
Classification:
- international: ***C07D405/04;*** **C07D405/00;** (IPC1-7): C07D405/04
- European:
Application number: JP19920072915 19920224
Priority number(s): JP19920072915 19920224

Abstract of **JP 5230058 (A)**

PURPOSE:To obtain the subject new compound useful as an antiviral or an antitumor agent. CONSTITUTION:The objective compound of formula I [R<1> is H, halogen or lower alkyl; R<2> is allyl, 2-alkylallyl, cycloalkanon-2-yl, R<4>-CH2 (R<4> is acyl) or cyano; R<3> is H or OH-protecting group]. This compound is obtained by reacting a compound of formula II (R<5> is acyl; R<6> is OH-protecting group) with an organosilicon compound in the presence of a Lewis acid.



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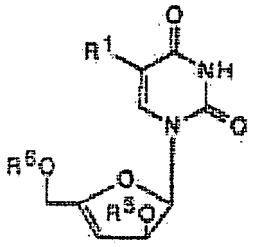

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